Atty. Dkt. No. <u>10015967-1</u>

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1   1. (Original) A method for adaptation of a computer system, network or
2   subsystem comprising developing a design for the system and performing an
3   automated loop comprising implementing the design; analyzing operation of
4   the design after said implementing; and modifying the design based on results
5   of said analyzing.

1   2. (Original) The method according to claim 1, further comprising forming
2   models of components of the system and applying results of said analyzing to
3   the models.

1   3. (Original) The method according to claim 2, wherein said applying results
2   of said analyzing to the models indicates utilization of a component of the
3   system.

1   4. (Original) The method according to claim 3, wherein said modifying the
2   design is performed in response to the utilization.

1   5. (Original) The method according to claim 4, wherein said modifying is
2   also performed in response to a desired headroom level.

1   6. (Original) The method according to claim 5, wherein said desired
2   headroom level provides that components of the system operate at less than
3   100% utilization.

1   7. (Currently Amended) The method according to claim [[7]]5, wherein said
2   desired headroom level provides that components of the system operate at
3   more than 100% utilization.

1   8. (Original) The method according to claim 1, wherein said implementing
2   the design comprises forming a plan and then implementing the plan.

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1   9. (Original) The method according to claim 1, wherein said system
2   comprises a CPU farm.

1   10. (Original) The method according to claim 1, wherein said system
2   comprises a data caching system.

1   11. (Original) The method according to claim 1, wherein said system
2   comprises a database system.

1   12. (Original) The method according to claim 11, wherein said modifying
2   comprises modifying indices of the database system.

1   13. (Original) A method for adaptation of a data storage system, comprising
2   developing a design for the data storage system and performing an automated
3   loop comprising implementing the design; analyzing operation of the design
4   after said implementing; and modifying the design based on results of said
5   analyzing.

1   14. (Original) The method according to claim 13, further comprising forming
2   models of components of the data storage system and applying results of said
3   analyzing to the models.

1   15. (Original) The method according to claim 14, wherein said applying
2   results of said analyzing to the models indicates utilization of a component of
3   the data storage system.

1   16. (Original) The method according to claim 15, wherein said modifying the
2   design is performed in response to the utilization.

1   17. (Original) The method according to claim 16, wherein said modifying is
2   also performed in response to a desired headroom level.

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1   18. (Original) The method according to claim 17, wherein said desired

2   headroom level provides that components of the data storage system operate at

3   less than 100% utilization.

1   19. (Original) The method according to claim 17, wherein said desired

2   headroom level provides that components of the data storage system operate at

3   more than 100% utilization.

1   20. (Original) The method according to claim 13, wherein said implementing

2   the design comprises forming a plan for migrating data and then implementing

3   the plan.

1   21. (Original) The method according to claim 20, wherein said forming a

2   plan comprises forming a directed multigraph and computing a maximum

3   general matching.

1   22. (Original) The method according to claim 13, wherein said analyzing

2   comprises forming a trace of storage system events and forming a workload

3   characterization based on the trace.

1   23. (Original) The method according to claim 22, wherein said workload

2   characterization comprises a number of parameter values that summarize the

3   trace.

1   24. (Original) The method according to claim 23, further comprising forming

2   models of components of the data storage system and applying said workload

3   characterization to the models.

1   25. (Original) A method for adaptation of a data storage system, comprising:

2   developing a design for the data storage system;

3   implementing the design;

4   forming a trace of storage system events;

5   forming workload characterization from the trace;

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6   applying the workload characterization to models of components of the

7   data storage system, wherein said applying indicates utilization of a

8   component of the data storage system; and

9   modifying the design in response to the utilization indicated by said

10   analyzing.

1   26. (Original) The method according to claim 25, wherein said modifying

2   results in a modified design and further comprising implementing the modified

3   design.

1   27. (Original) The method according to claim 26, wherein said modifying

2   comprises forming a device tree data structure that is representative of the

3   storage system.

1   28. (Original) The method according to claim 27, wherein said modifying

2   comprises reassigning data stores to components of the data storage system.

1   29.. (Original) The method according to claim 28, wherein said implementing

2   the modified design comprises forming a plan for migrating data and then

3   implementing the plan.

1   30. (Original) The method according to claim 29, wherein said forming a

2   plan comprises forming a directed multigraph and computing a maximum

3   general matching.

1   31. (Original) The method according to claim 25, wherein said modifying is

2   also performed in response to a desired headroom level.

1   32. (Original) The method according to claim 31, wherein said desired

2   headroom level provides that components of the data storage system operate at

3   less than 100% utilization.

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33. (Original) The method according to claim 31, wherein said desired headroom level provides that components of the data storage system operate at more than 100% utilization.

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